

What is the theory motivation to go beyond the current program?



How can theorists best support the experimental program?

- Improved neutrino nucleon cross section calculations and uncertainties
- Implement theory models into MC generators
- Further MC generator developments and studies quantifying theoretical uncertainties
- Encouragement for experiments to use multiple MC generators
- Standardisation of MC generator output and LArSoft input (useful for theorists as well)
- Support with statistics
- Fast computation of oscillation probabilities in matter: computational bottle neck for long baseline experiments
- Open communication and innovative use of resources: FASERnu
- What new physics information we can extract from experiments which are typically perceived as less multipurpose: neutrino less double beta decay experiments. Xenon-1T will be sensitive to NDBD, what about the converse? comment from Volodymyr Takhistov

Ask not what a theorist can do for you; ask what you can do for a theorist

Wishlist

distributions and cross sections
of background and data in various
file formats

Testing new physics models in a rigorous manner

Make it easier to encode new physics into MC generators

Comparison to (possibly unfolded) data. Available at central data base such as HEP data

validated analysis
publicly available

← Hide Publication Information

Search for new phenomena in events with three or more charged leptons in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector

The ATLAS collaboration

Aad, Georges , Abbott, Brad , Abdallah, Jalal , Abdel Khalek, Samah , Abidinov, Ovsat , Aben, Rosemarie , Abi, Babak , Abolins, Maris , AbouZeid, Ossama , Abramowicz, Halina

JHEP 1508 (2015) 138, 2015.
<https://doi.org/10.17182/hepdata.66248>

Journal INSPIRE HepData Resources

Rivet Analysis

Download All

View Analyses

Filter 20 data tables

Table 1 [10.17182/hepdata.66248.v1/t1](https://doi.org/10.17182/hepdata.66248.v1/t1)

Data from Table 4

Expected and observed event yields for the most inclusive signal regions.

cmenergies 8000.0

phrases Proton-Proton Scattering Electron production

RE	PP --> $\geq 3e/\mu/\tau_{\text{had}} (+X)$			
SQRT(S)	8000.0 GeV			
Event Yields				
Channel	Prompt	Fake	Total	Observed

Visualize

13,000 -
12,000 -
11,000 -
10,000 -
9,000 -
8,000 -

YAML
YODA
ROOT
CSV